



APPENDIX

DETAILS OF CLAIM AND SPECIFICATION REVISIONS

In the Specification:

[0012] The organic sulfonic acid concentration is effective over a wide range depending, upon the contact time and temperature and subsequent drying temperature. For example, a 100% acid solution contacted briefly then rinsed free of acid with little or no drying provides a similar result as a 20% acid solution contact without rinsing and dried at elevated temperature. In general, the higher the acid concentration, the longer its contact time, the hotter its contact temperature, and the hotter its drying time, the more permeable is the resultant polyamide composite membrane. Typically the membrane treatment solution is from about 10 to about 30 volume percent acid when elevated temperature drying is performed without removing the acid residue [residual] from the membrane. Alternatively, greater than about 50% acid concentration is typically used if rinsing is performed prior to drying the membrane. Other solvents besides water may advantageously be used, particularly those which swell the polyamide layer and/or decrease the surface tension of the treatment solution. It is believed that this behavior encourages penetration of the acid into the polyamide and enhances the treatment effect, Care should be taken, however, that such solvents do not adversely affect the underlying porous support or interfere with the action of the acid on the polyamide layer.

In the Claims:

15. (Twice Amended) A composite membrane useful for reverse osmosis or
2 nanofiltration comprising:
a supportive porous under-structure; and
4 a top layer consisting of a crosslinked polyamide thin film which is adhered
to the upper surface of the porous support structure, said top layer having been

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6 contacted with a solution of [an organic] a C₁-C₆ alkyl, alkenyl, haloalkyl,
haloalkenyl, hydroxy or aryl sulfonic or disulfonic acid compound,

8 whereby said membrane has a water flux of at least about 15 gfd and a
rejection of at least 20 percent when tested on a 0.05 percent aqueous sodium
10 chloride at 75 psi and 25°C.

21. (Twice Amended) A composite membrane as in Claim 15 wherein said
2 organic sulfonic or disulfonic acid compound comprises a sulfoacetic, [sulfobenzoic,
sulfoisophthalic, sulfophthalic, sulfosalicylic,] sulfosuccinic, hydroxybenzene
4 sulfonic, methanesulfonic, ethanedisulfonic, hydroxybutane sulfonic,
benzenedisulfonic, dihydroxy benzene sulfonic or dihydroxy benzene disulfonic
6 compound or [a mixture] mixtures thereof.

23. (Twice Amended) A composite membrane as in Claim [22] 15 wherein said
2 organic sulfonic acid compound comprises methanesulfonic acid,
trifluoromethanesulfonic acid or a mixture thereof.